AMENDMENTS TO THE CLAIMS

Claims 1-110. (Canceled).

111. (Currently amended) A metal-polysilicon contact, comprising:

a polysilicon layer provided over a substrate;

a barrier layer formed over said polysilicon layer;

at least one conductive layer formed over and in contact with said barrier layer in an opening of an insulating layer~~, said conductive layer having at least one vertically extending surface in said opening~~; and

~~at least one~~ a plurality of layers capable of absorbing oxygen,

wherein said plurality of layers capable of absorbing oxygen are formed adjacent to and in contact with said at least one conductive layer and are separated by said at least one conductive layer, and

wherein said plurality of layers capable of absorbing oxygen are formed within said opening of said insulating layer ~~contacting said at least one vertically extending surface of said conductive layer~~.

112. (Currently amended) The metal-polysilicon contact of claim 111, wherein said ~~at least one~~ plurality of layers capable of absorbing oxygen are [[is]] formed of a material selected from the group consisting of polysilicon, aluminum nitride, titanium nitride, tantalum, and silicon nitride.

113-114. (Canceled).

115. (Currently amended) The metal-polysilicon contact of claim 111, wherein said at least one conductive layer comprises a material which is conductive when oxidized.

116. (Currently amended) The metal-polysilicon contact of claim 111, wherein said at least one conductive layer comprises a material selected from the group consisting of platinum, platinum oxide, iridium, iridium oxide, ruthenium, ruthenium oxide, rhodium and rhodium oxide.

117. (Previously presented) The metal-polysilicon contact of claim 111, wherein said barrier layer is formed of a material selected from the group consisting of refractory metal nitrides, refractory metal carbides, and refractory metal borides.

118. (Previously presented) The metal-polysilicon contact of claim 111, wherein said barrier layer has a thickness of approximately 60 to 200 Angstroms.

119. (Currently amended) The metal-polysilicon contact of claim 111, wherein said at least one conductive layer has a thickness of approximately 100 to 300 Angstroms.

120. (Currently amended) The metal-polysilicon contact of claim 111 further comprising a capacitor formed over and in contact with said at least one conductive layer.

121. (Previously presented) The metal-polysilicon contact of claim 111, wherein said metal-polysilicon contact is a high aspect ratio contact having an aspect ratio of at least 25.

122. (Previously presented) The metal-polysilicon contact of claim 111, wherein said metal-polysilicon contact is part of a memory circuit.

123. (Canceled).

124. (Currently amended) The metal-polysilicon contact of claim 111 [[123]], wherein said plurality of ~~spaced~~ layers capable of absorbing oxygen comprises two layers capable of absorbing oxygen separated by one conductive layer.

125. (Currently amended) The metal-polysilicon contact of claim 111 [[123]], wherein said plurality of layers capable of absorbing oxygen comprises three ~~spaced~~ layers capable of absorbing oxygen separated by two contacting conductive layers.

126. (Currently amended) A memory cell, comprising:

a substrate;

a transistor including a gate fabricated on said substrate and including a source/drain region in said substrate disposed adjacent to said gate;

a capacitor including an electrode, said electrode having a surface aligned over said source/drain region; and

a metal-polysilicon structure providing electrical contact between said source/drain region and said surface of said electrode, said metal-polysilicon structure comprising:

a polysilicon layer formed over said substrate;

a barrier layer formed over said polysilicon layer;

at least one conductive layer formed over and in contact with said barrier layer in an opening of an insulating layer~~, said conductive layer having at least one vertically extending surface in said opening~~; and

~~at least one~~ a plurality of layers capable of absorbing oxygen, wherein said plurality of layers capable of absorbing oxygen are formed adjacent to and in contact with said at least one conductive layer, are separated by said at least one conductive layer, and are formed within said opening of said insulating layer ~~contacting said at least one vertically extending surface of said conductive layer~~.

127. (Currently amended) The memory cell of claim 126, wherein said ~~at least one~~ plurality of layers capable of absorbing oxygen are [[is]] formed of a material selected from the group consisting of polysilicon, aluminum nitride, titanium nitride, tantalum, and silicon nitride.

128. (Currently amended) The memory cell of claim 126, wherein said at least one conductive layer comprises a material selected from the group consisting of platinum, platinum oxide, iridium, iridium oxide, ruthenium, ruthenium oxide, rhodium and rhodium oxide.

129. (Previously presented) The memory cell of claim 126, wherein said barrier layer is formed of a material selected from the group consisting of refractory metal nitrides, refractory metal carbides, and refractory metal borides.

130. (Currently amended) The memory cell of claim 126 further comprising a capacitor formed over and in contact with said at least one conductive layer.

131. (Previously presented) The memory cell of claim 126, wherein said metal-polysilicon contact is a high aspect ratio contact having an aspect ratio of at least 25.

132. (Previously presented) The memory cell of claim 126, wherein said metal-polysilicon structure is part of a memory circuit.

133. (Canceled).

134. (Currently amended) The memory cell of claim 126 [[133]], wherein said plurality of ~~spaced~~ layers capable of absorbing oxygen comprises two layers capable of absorbing oxygen separated by one conductive layer.

135. (Currently amended) The memory cell of claim 126 [[133]], wherein said plurality of layers capable of absorbing oxygen comprises three ~~spaced~~ layers capable of absorbing oxygen separated by two contacting conductive layers.

136. (Currently amended) A metal-polysilicon contact providing electrical connection on a substrate, said metal-polysilicon contact comprising:

a polysilicon layer;

a barrier layer formed over said polysilicon layer;

at least one conductive layer formed over and in contact with said barrier layer in an opening of an insulating layer~~, said conductive layer having at least one vertically extending surface in said opening~~; and

~~at least one~~ a plurality of oxygen sink layers, wherein said plurality of oxygen sink layers are formed adjacent to and in contact with said at least one conductive layer and are separated by said at least one conductive layer, are formed within said opening of said insulating layer, and ~~contacting said at least one vertically extending surface of said conductive layer,~~ at least one of said plurality of oxygen sink layers is ~~being~~ at least partially oxidized.

137. (Canceled).

138. (Currently amended) The metal-polysilicon contact of claim 136 [[137]], wherein said plurality of ~~spaced~~ oxygen sink layers comprises two oxygen sink layers separated by one conductive layer.

139. (Currently amended) The metal-polysilicon contact of claim 136 [[137]], wherein said plurality of oxygen sink layers comprises three ~~spaced~~ oxygen sink layers separated by two contacting conductive layers.

140. (Currently amended) The metal-polysilicon contact of claim 136 [[137]], wherein each of said plurality of oxygen sink layers is at least partially oxidized.

141. (Currently amended) The metal-polysilicon contact of claim 136, wherein said ~~at least one~~ plurality of oxygen sink layers are [[is]] formed of a material selected from the group consisting of polysilicon, aluminum nitride, titanium nitride, tantalum, and silicon nitride.

142-143. (Canceled).

144. (Currently amended) The metal-polysilicon contact of claim 136, wherein said at least one conductive layer comprises a material selected from the group consisting of platinum, platinum oxide, iridium, iridium oxide, ruthenium, ruthenium oxide, rhodium and rhodium oxide.

145. (Currently amended) The metal-polysilicon contact of claim 136 further comprising a capacitor formed over and in contact with said at least one conductive layer.

146. (Previously presented) The metal-polysilicon contact of claim 136, wherein said metal-polysilicon contact is a high aspect ratio contact having an aspect ratio of at least 25.

147. (Previously presented) The metal-polysilicon contact of claim 136, wherein said metal-polysilicon contact is part of a memory circuit.

148. (Currently amended) A memory cell, comprising:

a substrate;

a transistor including a gate fabricated on said substrate and including a source/drain region in said substrate disposed adjacent to said gate;

a capacitor including an electrode, said electrode having a surface aligned over said source/drain region; and

a metal-polysilicon structure providing electrical contact between said source/drain region and said surface of said electrode, said metal-polysilicon structure comprising:

a polysilicon layer formed over said substrate;

a barrier layer formed over said polysilicon layer;

at least one conductive layer formed over and in contact with said barrier layer in an opening of an insulating layer~~, said conductive layer having at least one vertically extending surface in said opening~~; and

~~at least one~~ a plurality of oxygen sink layers, wherein said plurality of oxygen sink layers are formed adjacent to and in contact with said at least one conductive layer and are separated by said at least one conductive layer, are formed within said opening of said insulating layer, and ~~contacting said at least one vertically extending surface of said conductive layer~~, at least one of said ~~at least one~~ plurality of oxygen sink layers is ~~being~~ at least partially oxidized.

149. (Canceled).

150. (Currently amended) The memory cell of claim 148 [[149]], wherein said plurality of ~~spaced~~ oxygen sink layers comprises two oxygen sink layers separated by one conductive layer.

151. (Currently amended) The memory cell of claim 148 [[149]], wherein said plurality of oxygen sink layers comprises three ~~spaced~~ oxygen sink layers separated by two contacting conductive layers.

152. (Currently amended) The memory cell of claim 148 [[149]], wherein each of said plurality of oxygen sink layers is at least partially oxidized.

153. (Currently amended) The memory cell of claim 148, wherein said ~~at least one~~ a plurality of oxygen sink layers are [[is]] formed of a material selected from the group consisting of polysilicon, aluminum nitride, titanium nitride, tantalum, and silicon nitride.

154. (Currently amended) The memory cell of claim 148, wherein said at least one conductive layer comprises a material selected from the group consisting of platinum, platinum oxide, iridium, iridium oxide, ruthenium, ruthenium oxide, rhodium and rhodium oxide.

155. (Previously presented) The memory cell of claim 148, wherein said barrier layer is formed of a material selected from the group consisting of refractory metal nitrides, refractory metal carbides, and refractory metal borides.

156. (Currently amended) The memory cell of claim 148 further comprising a capacitor formed over and in contact with said at least one conductive layer.

157. (Currently amended) A metal-polysilicon contact, comprising:

a polysilicon layer provided over a substrate;

a barrier layer formed over said polysilicon layer;

at least one conductive layer formed over and in contact with said barrier layer in an opening of an insulating layer, ~~said conductive layer having at least one vertically extending surface in said opening,~~ wherein said at least one conductive layer is made of a material which is conductive when oxidized; and

~~at least one~~ a plurality of oxygen sink layers, wherein said plurality of oxygen sink layers are formed adjacent to and in contact with said at least one conductive layer and are separated by said at least one conductive layer, are formed within said opening of said insulating layer, and ~~contacting said at least one vertically extending surface of said conductive layer~~, each of said ~~at least one~~ plurality of oxygen sink layers is ~~being~~ capable of absorbing oxygen to slow down an oxygen front from reaching said at least one conductive layer.

158. (Currently amended) The metal-polysilicon contact of claim 157, wherein said ~~at least one~~ plurality of oxygen sink layers are [[is]] formed of a material selected from the group consisting of polysilicon, aluminum nitride, titanium nitride, tantalum, and silicon nitride.

159. (Canceled).

160. (Currently amended) The metal-polysilicon contact of claim 157, wherein said at least one conductive layer comprises a material selected from the group consisting of platinum, platinum oxide, iridium, iridium oxide, ruthenium, ruthenium oxide, rhodium and rhodium oxide.

161. (Previously presented) The metal-polysilicon contact of claim 157, wherein said barrier layer is formed of a material selected from the group consisting of refractory metal nitrides, refractory metal carbides, and refractory metal borides.

162. (Currently amended) The metal-polysilicon contact of claim 157 further comprising a capacitor formed over and in contact with said at least one conductive layer.

163. (Canceled).